

Agricultural Equipment Technology Conference
January 28-30, 2013
Kansas City Convention Center
Kansas City, Missouri

MONDAY, JANUARY 28

7:00AM-6:00PM Registration Open

8:00AM-11:00AM CPD #1 – Lightweight Metals in Agricultural Equipment

Instructor: Mesut Varlioglu, John Deere

Location: 3501 C

Aluminum, magnesium and titanium alloys are commonly used lightweight metals to reduce the weight, carbon emission and fuel consumption of the structural designs in aerospace and automotive industries. The objectives of this educational session are to explain the importance of lightweight designs in agricultural equipments, to increase the level of knowledge in the design, manufacturing, service performance of lightweight metals and discuss the major obstacles of using lightweight metals in designing cost-effective and structurally safe agricultural equipments.

8:00AM-11:00AM CPD #2 – CAN Bus

Instructors: Matt Darr, Iowa State University; Scott Shearer, Ohio State University

Location: 3501 A

TARGET AUDIENCE: Engineers with limited background in CAN systems, Researchers involved with machinery logistics.

LEARNING OBJECTIVES: _a) Understand basic concepts and terminology of CAN bus systems, b) Utilize commercial hardware and software products to analyze and collect CAN bus data, c) Investigate CAN filtering and data management for machinery logistics evaluation, d) Understand the role of standards in industrial CAN system.

BENEFITS: CAN bus data systems are an integral part of all production ag machinery today. Data available over CAN networks provides tremendous value in assessing the logistics and productivity of ag machinery. This workshop is targeted towards engineers and researchers with a general background in ag vehicle electrical systems, but little prior knowledge of CAN systems. The workshop objectives are to provide an understanding of general CAN concepts, terminology, and implementation while also demonstrating commercial solutions for interaction with CAN systems. Specific topics to be covered include CAN message definition, processing and evaluating CAN data, overview of physical wiring and harness connections for capturing CAN data, sending data on CAN networks, understanding the limits of CAN systems, and the role of CAN standards in ag machinery. Commercial CAN data acquisition software will be demonstrated. Attendees are encouraged to bring along a laptop to run a trial version of the data acquisition software. Case study examples will demonstrate CAN use for biomass harvest machinery logistics, combine productivity analysis, and CAN based control system design.

8:00AM-9:00PM Committee Meetings

10:30AM-11:30AM Suppliers and Consultants Session

Design Project Presentations

Location: 3501 C

Does your company serve or is looking to serve the agricultural equipment industry? Does your company have a new or unique process or product? Come exhibit what your company has to offer at the Suppliers and Consultant's Display at ASABE's Agricultural Equipment Technology Conference (AETC) in Kansas City, MO. This conference leads up to the Ag Connect Expo and has attendees from equipment OEMs from throughout the United States and Canada.

11:00AM-12:00PM Electronic Poster Session

Location: 3501 E&F

Poster #1

1

Title and Presenter

Improvement and Evaluation of a Mechanical Harvester for Sweet Cherry

Peter A. Larbi, Washington State Univ, Prosser, WA (Peter A. Larbi, Manoj Karkee, Suraj Amatya, Qin Zhang, Matthew D. Whiting)

12:00PM-1:30PM AE50 Recognition Luncheon
Location: 3501-G-H Level 3 Great Hall

1:30PM-3:00PM Tech Session #1 – AE50 Showcase #1
Moderator: Brian Huenink
Location: 3501 C

Each year the AE50 recognition awards honor companies offering the best engineered products for agricultural, food, biological and related systems. These companies continue to push the envelope of new equipment design through innovation. The AE50 products featured in this session were new to the marketplace in 2012, and all have the potential for a broad impact in their area of industry. This is an excellent opportunity to learn of new features incorporated into these products and share a portion of their journey to the marketplace. The session is open to all and will feature presentations on a sampling of those products receiving 2012 AE50 awards.

1:30PM

Introduction

1:35PM

BigBaler Series Large Square Baler

Kevin Richman, CNH

1:55PM

TBA

Claas

2:15PM

TBA

Claas

2:35PM

TBA

Claas

1:30PM-3:00PM Tech Session #2 – Irrigation
Moderator: Garrett Pommeranz
Location: 3501 A

This session will overview standards, conservation, and mechanization currently influencing irrigated agriculture.

1:30PM

Introduction

1:35PM

Engineering Development of Valley VRI and Agronomic Sciences

Jacob LaRue, Valmont Irrigation

1:55PM

Current Agricultural Irrigation Standards

Travis Tsunemori, ASABE Headquarters

2:15PM

Enhancing Water Conservation and Crop Productivity in Irrigated Ag

Kelly Thorp, USDA ARS

2:35PM

Regenerative Water Use with Mechanized Irrigation Systems

Andy Smith, Reinke Manufacturing Company

3:00PM-3:15PM Break

3:15PM-5:15PM Tech Session #3 – AE50 Showcase #2
Moderator: Brian Huenink
Location: 3501 C

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3:15PM

Introduction

3:20PM

ML Series Air Drill

Adam Reid, Buhler Industries, Inc.

3:45PM

ABS Super-Steer for New Holland T7

Chris Carrier, New Holland Agriculture

4:10PM

TBA

John Deere

4:35PM

TBA

4:55PM John Deere
TBA
John Deere

3:15PM-5:15PM Tech Session #4 – Custom Harvesting
Moderator: Chad Yagow
Location: 3501 A
Come join us to learn the ins and outs of custom harvesting. Representatives from both the customer and manufacturer segments will be represented providing information about day-to-day operation, customer support, available technologies, and the custom harvester community. Both grain and forage harvesting will be represented.

3:15PM **Introduction**

3:20PM **John Deere Harvest Support Team**
Mike Barnett, John Deere Harvester Works

3:45PM **Self Propelled Forage Harvester Technology**
Bob Armstrong, CLAAS

4:10PM **Custom Harvesting Through the Eyes of a Nebraska Wheatie**
Tracy Zeorian, US Custom Harvesters Inc.

4:35PM **Harvesting the Crops that Feed the World**
Kent Braathen, US Custom Harvesters Inc.

5:30PM-6:30PM Career Fair
Location: 3501 E&F

5:30PM-9:00PM Industry Reception
Location: 3501 G&H

TUESDAY, JANUARY 29

7:00AM-12:00PM Registration Open

8:00AM-9:00AM Distinguished Lecture
Moderator: Kevin Smith
Location: 3501 C
“Tractor Power for Implement Operation – Mechanical, Hydraulic, and Electrical – An Overview”

Authors: Dr. Joachim Sobotzik, Kenneth J. Stoss, Jody P. Roades,
Dennis A. Bowman, Michael D. Kollath, Edwin R. Kreis

It is well understood that the main function of tractors is to provide drawbar power to implements either through the single point connection known as the drawbar or through the 3 point hitch. Early tractors essentially replaced horses and other draft animals to do work. Also, over the years, tractors have been called upon increasingly to provide other forms of power transfer to power and control implement functions. This lecture looks at other power usages and requirements focusing primarily on mechanical means such as the PTO, tractor hydraulic systems, and more recently through transfer of electrical power. A historical perspective is provided for each form of power. One of the themes developed is how tractor and implement manufacturers can exploit available tractor power to improve efficiencies of the tractor implement system that will be beneficial to the end user of the equipment. Also the advantages and disadvantages of each type of power transfer will be discussed. Also relevant standards and current practices will be also discussed as well as some future trends.

9:00AM-11:30AM Tech Session #5 – Tire Technology
Moderator: Neal Stoffel
Location: 3501 A
This session will consist of 4-5 suppliers of tires and/or traction devices to the agricultural/industrial market. They will present information on the present state of development of agricultural tires, tracks and further

Discuss the impact and testing of soil compaction on the design and development of agricultural machinery.

9:00AM

Introduction

9:05AM

Fighting Soil Compaction with Tire Technology and Central Tire Inflation

Ken Brodbeck, Firestone Farm Tires

9:30AM

Management of Compaction in Agricultural Fields

Randy L. Raper Ph.D, Oklahoma Agricultural Experiment Station

9:55AM

CLAAS Gen 3 Terra Trac System

Dr. Hagen Adam, CLAAS Industrietechnik

10:20AM

Advancements in Radial Tire Technology that Benefit Today's Farmers

Bob Rees, North American OE Technical Manager - Agriculture

10:55AM

Titan Tire Works to Reduce Subtle Damage

Scott Sloan, Titan International

9:00AM-11:30AM

Tech Session #6 – Standards

Moderator: Kevin Wilkening

Location: 3501 C

This session will overview key standards development activities and regulations pertaining to agricultural equipment. This year's session will once again include international perspectives as well as provide detailed updates on key North American initiatives.

9:00AM

Introduction

9:05AM

Evolving European Standards & Regs: The German Perspective

Norbert Alt, VDMA

9:30AM

Evolving European Standards & Regs: The UK Perspective

Keith Hawken, Agricultural Engineers Association

9:55AM

Air Quality Systems For Agricultural Cabs

Richard Job, Richard W Job Associates LLC

10:20AM

US Lighting and Marking Legislative Update

Nick Tindall, AEM

10:45AM

**Standardizing the Format of Standards:
A Sneak Peek at the ASABE Standards Template**

Cale Boriack, CNH

11:30AM-1:30PM

Luncheon – Keynote Speaker – Barry Nelson, John Deere

“Importance of Agriculture & New Technology”

Location: 3501-G-H, Level 3 (Great Hall)

1:30PM

AgConnect Trade Show Preview Day and VIP Event

WEDNESDAY, JANUARY 30

7:00AM-12:00PM

Registration Open

8:00AM-10:00AM

Tech Session #7 – Utility Tractors

Moderator: Travis B “Rusty” Unterzuber

Location: 3501 A

The utility tractor market is both a high volume and globally diverse market. These 30 to 75 kW tractors are used in almost every conceivable application with numerous implements and attachments under a full range of environments.

The purpose of this session is to provide an overview of the size and variability of this market including the range of technology to match each region. The discussion will include factors that determine what level of technology is accepted as well as the anticipated technology growth in emerging markets.

8:00AM-10:00AM

Tech Session #8 – Livestock Handling

Moderator: Andy Lenkaitis

Location: 3501 C

The Livestock Technology session will look at equipment used in feeding and manure handling of livestock facilities. Feed quality is critical to proper animal growth and development; manure handling methods have evolved to make efficient use of every nutrient being applied. Additionally, EPA will discuss environmental regulations affecting manure application and water quality. Livestock housing and advanced manure treatment will round out the panel.

8:00AM

Introduction

8:05AM

Feed Quality Technology at CLAAS

Matt Jaynes, Claas

8:30AM

Manure Application Equipment and Technology

Ben Puck, Puck Customer Enterprises

8:55AM

Livestock Facilities, Manure Transfer, Processing and Application

Andy Lenkaitis, GEA Farm Technologies

9:20AM

TBA

9:00AM-4:30PM

AgConnect Trade Show

10:00AM-10:15AM

Break

10:15AM-12:00PM

Tech Session #9 – Supplier Showcase

Moderator: Neal Stoffel, Kondex Corporation

Location: 3501 A

AETC 2013 will again feature some of the world's finest agricultural equipment component/systems manufacturers and distributors. These companies will be presenting the newest innovations and most up-to-date information on a variety of agricultural machinery systems of interest to attendees. The supplier companies presenting will also have tabletop displays of their products, literature and contact information. Don't miss out on this opportunity to learn about the latest developments, from the world's best agricultural OEM suppliers.

10:15AM

Introduction

10:20AM

CLAAS Industrietechnik Technology Overview

Thomas Spiering, CLAAS Industrietechnik

10:45AM

MICHELIN® YieldBib™

Meredith Rigdon, Michelin North America

11:10AM

ISOLynx Precision Ag Suite

Djamel Khali, Ally Precision Industries LLC

11:35AM

WatchDog® Cellular Alert

Mike Thurow, Spectrum Technologies, Inc.

10:15AM-12:00PM

Tech Session #10 – Farm Management Info Systems

Moderator: Joe Luck

Location: 3501 C

Farm Management Information Systems (FMIS): Many manufacturers offer these solutions. The goal of this session is to offer a balanced view of these solutions to include a users' perspective. The uses will go beyond field guidance and control systems. It includes records management, business planning, cash flow projections, decision making, and equipment utilization.

10:15AM

Introduction

10:20AM

Data Management...expectations and needs at the farm

John Fulton, Auburn University

10:45AM

CLAAS Farm Management System Approach

Reinhold Maehler, Claas of America, Inc.

11:10AM

TBA

John Mann, John Deere

7:00PM-9:00PM

AETC Planning Committee Dinner Meeting